

The Publikum then asks for the cube root of 45,118,016, and the Rechenkünstler at once states that it is 356. When asked for the cube root of a perfect cube of seven figures he calls for the last three figures only, and upon being told that they are $\dots 313$ he at once says that the cube root must be 217, although he is ignorant of the other figures.

The Publikum then sets the problem to find the seventh root of a twelve-figure number, and is asked to state the last figure (in this case $\dots 7$) and then to give all the figures in any order it chooses (in this case given as 887621111107, although the whole number was really 271,818,611,107). The answer is at once given as 43.

Among some of the more difficult problems worked out mentally, the method being stated in the text, are the following:

The fifth root of 11,576,155,017,345,132,257 is 6497. The eleventh root of a number of fifteen figures (952,809,757,913,927) is given as 23, the computer being told the figures in any order whatever (in this case, 012235577789999).

The thirty-first root of a perfect power, the number having thirty-five places, is given as 13, the computer not being told even a single figure. The number is 34,059,943,367,449,284,484,947,168,626,829,637.

The second half of the book is devoted to the Easter problem, the famous Elberfeld horses, the multiplication methods of Ferrol (which are shown to be applications of processes known for many centuries), the relation of the properties of nine to the Fermat problem, and the further proposition of Fermat with respect to a^{p-1} .

DAVID EUGENE SMITH.

Konforme Abbildung einfach-zusammenhängender Bereiche.

Von E. STUDY. Zweites Heft, herausgegeben unter Mitwirkung von W. BLASCHKE. Leipzig, B. G. Teubner, 1913. iv + 142 pp.

THIS is the second volume* of a series of lectures on geometric topics by Study and deals with the conformal transformation of singly connected domains, a subject which, after a long period of stagnation, has in recent years received the attention of a number of investigators. In the center of these researches stands the possibility of the conformal mapping of a given

* See review of vol. 1, in this BULLETIN, vol. 19, pp. 15-18.